

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/020,897	MIDTGAARD ET AL.	
	Examiner	Art Unit	
	Melur Ramakrishnaiah	2643	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11-4-2005.
2. ☒ The allowed claim(s) is/are 3-14, 16, 30, 31, 33 and 34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

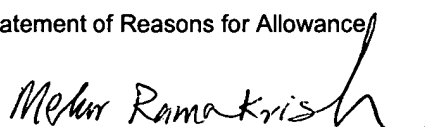
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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**MELUR RAMAKRISHNAIAH**  
**PRIMARY EXAMINER**

***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance: The present invention relates to transmitter circuits, particularly but not exclusively to power amplifier linearizing circuits such as envelope elimination and restoration transmitters and polar loop transmitters for use in portable communication devices such as mobile telephones.

The prior art of record in combination or alone fails to teach or suggest these elements of independent claims 3, 4, 14, 16, 30, 33 in combination with other elements. Independent claim 3 has limitations such as an envelope loop, a phase loop, and components disposed within each of the phase loop and envelope loops configured to match the transfer characteristics of the phase and envelope loops, wherein the matching components comprise loop filter in each of the phase and envelope loops, the polar loop transmitter being operable over an operating frequency range, wherein each loop filter is configured so that transfer characteristics of the phase and envelope loops are matched over the operating frequency range. Independent claim 4 has limitations such as as an envelope loop, a phase loop, and components disposed within each of the phase loop and envelope loops configured to match the transfer characteristics of the phase and envelope loops, wherein each filter is configured so that the phase and envelope loops are of the same type and have substantially same bandwidth and loop damping. Independent claim 14 has claim limitations such as power amplifier for amplifying an input signal having input phase and envelope components to produce an output signal having phase and envelope components, an envelope loop including elements configured to produce an envelope difference signal representative of the

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difference between the input and output envelop components, and an envelop loop having loop characteristics, a phase loop including elements configured to produce a phase difference signal representative of difference between the input and output phase components, the phase loop having loop transfer characteristic, and elements disposed within each of the phase and envelop loops configured to match the transfer characteristics of phase and envelop loops. Independent claim 16 has similar limitations as claim 14. Independent claim 30 has limitations such as a controller for controlling the envelop of the output signal, and a compensator for compensating for non-linear characteristics of the envelop controller, wherein power amplifier has a bias control input, the feedback transmitter comprising: a difference signal generator representative of the difference between input and output envelop components, wherein the difference signal is connected to the bias control input of the power amplifier to provide for envelop control means, wherein the difference signal generator comprises a compensator arranged to receive signals from first and second envelop detectors for detecting input and output components respectively, wherein compensator is disposed between the output of the amplifier and the input to the comparator, and wherein the compensator comprises first and second compensation elements, the first compensation element being disposed between the first envelop detector and a first input to the compensator and the second compensation element being disposed between the second envelop detector and second input to the compensator. Independent claim 33 has limitations such as a controller for controlling the envelop of the output signal, and a compensator for compensating for non-linear characteristics of

the envelop controller, wherein power amplifier has a bias control input, the feedback transmitter comprising: a difference signal generator representative of the difference between input and output envelop components, wherein the difference signal is connected to the bias control input of the power amplifier to provide for envelop control means, wherein the difference signal generator comprises a compensator arranged to receive signals from first and second envelop detectors for detecting input and output components respectively, wherein compensator is disposed between the output of the comparator and envelop controller, and wherein the compensation element has a linear transfer function with variable gain and non-linear gain control. For the above reasons independent claims 3, 4, 14, 16, 30, 33 and dependent claims 5-13, 31, 34 are allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Melur Ramakrishnaiah  
Primary Examiner  
Art Unit 2643